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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,506	12/20/2004	Maurizio Enrico Tonin	66309-208	8382
68804	7590	11/09/2007		
JOHN P. DE LUCA 17420 RYEFIELD CT. DICKERSON, MD 20842			EXAMINER NALVEN, EMILY IRIS	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 11/09/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/518,506

**Applicant(s)**

TONIN, MAURIZIO ENRICO

**Examiner**

Emily I. Nalven

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 31 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-6 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-6 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendments***

Receipt of amendment filed on Aug. 31, 2007 is acknowledged.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 9** is rejected under 35 U.S.C. 102(b) as being anticipated by Riello (US 4,067,204).

**In regard to claim 9**, Riello teaches an air conditioner (10) adapted to be located in a hole (made by inserting casing of air conditioner 10 into the plane of panels 82 and 84 – see Fig. 2) formed in a building wall extending from an internal room to outside the building (see Fig. 2) comprising a housing (10) (col 3 lines 50-54) forming a channel (26, 28) having an axis and extending through the hole from an end of the housing (14) in the room to an end of the housing (12) outside the building along said axis (see Fig. 2 and Fig. 4 and col 3 lines 50-63), a condenser unit (38) disposed in the channel in a portion of the housing within the hole and near the end outside of the building (see Fig. 3), an evaporator unit (36) disposed in the channel in a portion of the housing located in the room (see Fig. 3), the condenser unit (38) and the evaporator unit (36) being arranged in the housing in alignment along the channel one behind the other (see Fig. 3 – where the one is

behind the other when looking at the perpendicular to wall 24) and on opposite side of a plane (24) separating the condenser (38) and evaporator (36) and said plane (24) is perpendicular to the axis (parallel to planes 82 and 84) (see Fig. 2 and Fig. 3).

Riello also teaches the portion of the housing inside the room having an inlet (18) into the room for air (see Fig. 3 and col 3 lines 64-66) and a pair of outlets (20, 22) into the room for circulating air to be cooled therethrough (see Fig. 3 and col 3 lines 64-66). Riello teaches the inlet (18) lying in a plane parallel to the plane (24) separating the evaporator (36) and condenser (38) (see Fig. 3). The opening of inlet (18) is parallel the front face of the wall (24). Riello also teaches each outlet (20, 22) lying in a corresponding plane (parallel to the plane of the opening of the inlet 18 – see Fig. 3) one above (22) the inlet (18) and one below (20) the inlet (as seen from a bird's eye view in Fig. 3), each corresponding plane lying at an angle with respect to the inlet (18) (see Fig. 3). It is interpreted that at an angle can be anywhere from 0 degrees to 360 degrees. Riello also teaches the portion of the housing outside the building having an inlet (60) and outlet (62) for circulating heated air from the condenser (38) to outside the housing (10) wherein said inlet (60) and said outlet (62) being placed in a substantially vertical plane (vertical to the Y-Y plane and perpendicular to 82, 84) (see Fig. 2 and Fig. 3). The special inlet 60 and outlet 62 has slots which create openings additions

from the openings 16 and 18 that force the air to circulate in a particular manner depending on the size and angle of the slots.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 2 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Riello (US 4,067,204) in view of Bottaro et al. (WO 01/07837).

**In regard to claim 1**, Riello teaches an air conditioner (see Figs. 1-5) comprising: a condenser unit (38) crossed by a flow of air external to the room to be conditioned between an inlet (20) and an outlet (22); an evaporator unit (36) crossed by a flow of air internal to the room to be conditioned between an intake (16) and a delivery way (18), wherein said condenser unit (38) and said evaporator unit (36) are arranged in a single container (10). In said container, the first part (26) is defined wherein said evaporator unit (36) is arranged, and the second part (28) in which condenser unit (38) is arranged, only said first part of said container (26) in which said evaporator unit (36) is arranged, projecting inside said room to be conditioned (see Figs. 1, 2; Abstract, lines 1- 3); said parts are aligned one behind the other (Fig. 3) according to an axis parallel to the direction of the inlet (22) and the outlet (20) of said external air flow through, said

inlet (22) and said outlet (20) being placed in a substantially horizontal plans-plane (14) and said inlet and outlet consisting of two holes (col. 3 lines 64-65), the perimetral external surface of said second part 28 of said container being suited to be coupled to the surfaces of an opening made in a wall (see Fig. 1, 2; col. 2, lines 47-55; col. 6, lines 27- 29).

However, Riello does not explicitly teach said evaporator unit 36 with an inclined air delivery opening pointing downwards.

Bottaro et al. teach an evaporator unit 3 with an inclined air delivery opening (43) pointing downwards (see Fig. 3, page 1 lines 13-16).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify the system of Riello with the system taught by Bottaro et al. in order to provide consumers with the most efficient wall-mounted air conditioner that could be positioned at a high distance from the floor, in proximity to the ceiling.

**In regard to claim 2**, Riello discloses in Figures 1-5 a fore wall (12) with substantially circular holes (16 and 18; col. 1, lines 22-26) having a large diameter through which the room air is circulated. However, he does not disclose that the rear wall holes (20 and 22) are circular and having a diameter of 160 mm or greater.

At the time the invention was made, it would have been an obvious matter of

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design choice to a person of ordinary skill in the art to modify the outside holes as circular with said diameter 160 mm and more, because Applicant has not disclosed that the outside holes with this diameter provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with circular holes of that diameter to ensure adequate room ventilation.

**In regard to claim 6**, Riello teaches an air conditioner installation comprising an air conditioner (10) (see Figs. 1-5) having a condenser unit (38) crossed by a flow of air external to the room to be conditioned between at least an inlet (22) and at least an outlet (20), an evaporator unit (36) crossed by a flow of air internal to the room to be conditioned between at least an intake (16) and at least a delivery way (18), said condenser unit (38) and said evaporator unit (36) being arranged in a single container (10), which defines the first part wherein said evaporator unit (36) is arranged and a second part in which said condenser unit is arranged, said parts being aligned behind each other according to an axis parallel to the direction of the inlet (22) and the outlet (20) of said external air flow, through said at least one inlet and at least one outlet of said condenser unit (38), said inlet (22) and said outlet (20) being placed in a substantially horizontal plane (14, see Figs. 3, 4), said inlet and outlet consisting of two holes (20, 22), a wall of said room to be conditioned facing the outside and having an opening suited to house air conditioner (see Figs. 1, 2), the said part of said container

projecting inside said room. However, Riello does not explicitly teach that the opening of said wall is placed substantially in the top of said wall; the perimetral external surface of said second part of said container being suited to be coupled with the surfaces of an opening made in a wall of said room and delivery openings of said delivery way being inclined downwards.

Bottaro et al. teach the opening of said wall is placed substantially in the top of said wall (see Fig. 3); the perimetral external surface of said second part of said container being suited to be coupled (see Fig. 3) with the surfaces of an opening made in a wall of said room (see Figs. 1-4; page 1, line 2) and delivery openings of said delivery way (43) being inclined downwards (see Fig. 3, page 1, lines 13-16).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to modify the system of Riello with system taught by Bottaro et al. in order to provide consumers with the most efficient wall-mounted air conditioner that is positioned at a high distance from the floor, in proximity to the ceiling 7.

**Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Riello (US 4,067,204) in view of Bottaro et al. (WO 01/07837), and further in view of Nakagawa et al. (US 2003/0167786).



Riello teaches most of the claim limitations, however he does not teach the intake of said evaporator unit (36) comprises a first vertical intake and a second inclined intake pointing upwards.

Nakagawa et al. teach (Figure 1) an intake system of a conventional air conditioner (10), comprising a first vertical intake ("a front air inlet" 10a) and a second inclined intake pointing upwards ("a top air inlet" 10b; col. 1, para 3). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the system of Riello and Bottaro et al with the front air inlets and the top air inlets provided in the front and top surface of the air conditioner body as taught by Bottaro et al. for the purpose of greatly increasing the air moving efficiency of the apparatus and developing energy energy-efficient technologies for buildings.

**Claims 4-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Riello (US 4,067,204) in view of Bottaro et al. (WO 01/07837), and further view of Laing (US 3,279,209).

Riello and Bottaro et al. teaches most of the claim limitations, however they do not explicitly teach that fan (32) is arranged upstream to said condenser (38); and a fan (30) arranged upstream to said evaporator (36).

Laing teaches a condenser unit comprising a condenser (13) and a fan (20) arranged upstream to said condenser (Fig. 1); and an evaporator unit comprises

an evaporator (12) and a fan (19) arranged upstream to said evaporator (Fig. 1).

It would have been obvious to one having ordinary skill in the art at the time of invention was made to modify the system of Riello and Bottaro et al. with the system taught by Laing in order to improve efficiency of the room air conditioning system that is mounted at a high distance from the floor, in proximity to the ceiling.

### ***Response to Arguments***

Applicant's arguments filed on Aug. 31, 2007 have been fully considered but they are not persuasive.

The applicant claims that the condenser (38) and evaporator (36) do not lie behind one another on the Y-Y plane. However, by rotating the axis and what is being called the Y-Y plane, the condenser (38) and evaporator (36) as cited by Riello do indeed line up one behind the other (panels 82 and 84 are parallel to the Y-Y plane). It would have been obvious to one of ordinary skill in the art at the time of the invention to rotate the air conditioning system (10) so that the panels 82 and 84 are the Y-Y plane because this allows for greater flexibility in where the outlet and inlet are and where the flow of cool air from the air conditioner is blown. From Fig. 3 the condenser (38) and evaporator (36) are aligned on opposite sides of plane (24) which is perpendicular to the Y-Y plane.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Ikeda et al. (US 6,692,223) teach an air conditioner.

Woods (US 3, 783, 637) teaches a room air conditioner.

Kim (US 6, 511,287) teaches a blowing fan assembly for a window-type air conditioner.

Matthews et al. (US 4, 102, 148) teach an air conditioning apparatus and method of assembling.

Jianxing (US 6, 134, 904) teaches a low noise window-type air conditioner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily I. Nalven whose telephone number is 571-272-3045. The examiner can normally be reached on Monday - Thursday 8 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emily Iris Nalven  
Art Unit 3744  
October 31, 2007

  
CHERYL TYLER  
SUPERVISORY PATENT EXAMINER